

On a wheel, the water does not resist the motion of the wheel because the pressure is conducted to the wall forming the sufficient support for the water. According to D'Alembert and others, the laboring force of a wheel is represented by the formula,

$$W \cdot V \cdot \frac{g}{2R}$$

where W represents the weight of the wheel, V velocity and g is 2 feet. The centrifugal force of the wheel is represented by the formula

$$\frac{W \cdot V^2}{g \cdot R}$$

where R represents the radius of the wheel. Comparing these two formulae, we see that the laboring force is the centrifugal force as the radius of a wheel is to two feet. If the radius of the wheel is two feet, then the centrifugal force is twice that of the laboring force, and this remains true for every velocity of rotation. And, as it is presumed that the water is the cause of the motion, it is presumed that the laboring force is the cause of the motion. However, if he proposed to propel a ship by means of a wheel, the laboring force would be one of his materials, would expend a great deal of labor in setting two feet, play a wheel with a radius of two feet, and the centrifugal force would be the cause of the motion. The laboring force would be the cause of the motion.

If the radius of the wheel is less than two feet the preceding formula gives a centrifugal force greater than the binding force, and with a radius of six feet the centrifugal force is 100 times the binding force. It is therefore clear that the mercury will be thrown out of the wheel three times the height. There is some reason to believe, however, that Mr. Sawyer's plan may succeed in a small model—although it may fail when tried upon a large scale. But in order to apply this centrifugal force to maintain the rotation of the wheel, Mr. Sawyer proposes to use a small wheel, which is kept tight by a combining condenser. When the centrifugal force is 274 pounds, and there must be an equal amount of pressure on the surface of the wheel, the end of his vertical tube requires air having a pressure of 274 pounds to keep it tight. Now the same pressure will be required to keep the mercury from the center of the revolving wheel is designed to escape, and since the valve is supposed to extend entirely round the circumference of the wheel, it must expose a surface of considerably more than ten feet, so that a pressure of 274 pounds will be required above the mercury; the mercury therefore could not make its escape. If air of less density is employed, then the available

centrifugal force will be only the excess of the centrifugal force above the total pressure of the air on the valve. In no event could there be any "plus of centrifugal force above what is needed to maintain the rotation of the wheel."

In conclusion, if there are any who believe that Mr. Sawyer's project for a perpetual motion will succeed, I would urge them to show their faith by their works, and consider the means to that end the principle by actual experiments—and if it should be found that the machine operates in the manner claimed by Mr. Sawyer, then I will not merely consent to be called "green," but will engage to take stock in the "Static Pressure Rotary Engine Company," and will be glad to have my name in the list of *ELIAS LEXOWIS*.

New-York University, Sept. 29, 1881.

PHILADELPHIA.

Remains of Stephen Girard—Arrests—Markets—Stocks, &c.

Correspondence of THE N. Y. Tribune

PHILADELPHIA, Thursday, Sept. 25, 1881.

The remains of the late Stephen Girard are to be removed to Grard College on Thursday next, on which occasion the Masonic Order, of which he was a member, will parade publicly, for the first time, in the city.

George W. Hall was arrested yesterday, and committed to prison, charged with attempting to pass counterfeit money.

Last evening, as an officer of the Marshal's police was conveying a woman, named Ann Case, to the city jail, in a carriage, she was delivered of a child. The mother and infant are doing well.

Letitia Davis, keeper of a house of ill fame in Russell street, in this city, has been held to bail in the sum of \$1,000 to answer the charge of keeping a bawdy house, and of harboring a prostitute, on the 14th inst. The owner of respectable parents, for the purpose of paying the prostitute her wages, she had been arrested on the 14th inst. The harbored girl acted in the most shameless manner before the Mayor, having been exceedingly reckless and depraved.

This morning there was a meeting of the committee of the Board of Aldermen, for the purpose of considering the report of the Mayor, relative to the thieves, the parties charged having been arrested in the course of the past 24 hours.

[illegible]

Isleton R. 10, 56, 57, 60; Narratowen R. 6, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859,

The Government Clerks are nearly all in debt and many of them have to sell their furniture to clear off old scores, when they are called upon to receive money from the Clerks to pay the debts. When any of them refuse, an application is made to the head of the department to which he is attached, and all right. Those Clerks are in fact a miserable set of beings. Constantly living above their income, their respectable poverty and condition of perpetual debt, and their constant quarrels with the department, all catch the contagion of mummy Court influence, and constantly live in an unhealthy social atmosphere. They attend all the general balls of Government house, and naturally persuade themselves that they have some sort of affinity with the delegation, and are consequently admitted to witness. In many cases they far exceed the actual necessities of public service, and, as a consequence, they are permitted to lead easy and idlist lives, very unfavourable to the public interest.

The report also stated that the Government people who had examined the local papers are silent on the subject. Reppe says there have been some cases of Cholera there. But as it may be unquestionable that some of the cases of illness at Quebec may be accounted for by the fact that the surrounding country, for some two hundred miles, is wholly unsettled, and has scarcely ever been explored except by Jesuit missionaries.

The Report of the Commissioners of Emigration shows a decrease of emigrants from the United Kingdom during the year ending December, 1860, the number of emigrants from that United Kingdom to Canada were 32,635, and of those of 18,289 remained in the Province; 15,725 went to the United States. In the previous year the number of emigrants to Canada was 35,000, about one-third of which, it is estimated, returned to the United Kingdom ceased to flow in greatest force against the shores of these British Provinces, and took the direct route to the United States. This change in the current

of emigration was a well-known fact. The fact that so long as the number of emigrants to these provinces was inconsiderable, they all found ready employment, but when it came in much larger numbers, employment was not to be had, and they were consequently forced to return to the United States, that they were not followed and wasted solely as a result of the large remittances of emigrants to the United States to their friends. This may be true to a great extent, but it is not the whole truth. It was just after the rebellion that emigration to these colonies began to decline, and it is in the doubt, or at least in the uncertainty, of the future of our political institutions, and the time having once set in in another direction, later emigrants naturally followed their friends.

The work of the late session of Parliament is summed up: Bills introduced and passed, 111; lost or dropped, 10; the whole number only introduced, 121. The Legislative Council.

For the intermediate election in the *11th Riding York* there are four candidates, all subscribing to the same radical platform, though one of them comes on the Tory ticket.

It is to be noted that the Canadian Rides will be

bandoned in two years, if the recently imported military pensioners be found to answer the purpose of the introduction.

Great efforts are being made to defeat the Inspector in the County of Oxford, principally by a journey which, till within a few weeks, has been the army of the Government.

The weather has been very changeable.

The Provincial Agricultural Exhibition commences at Brackley on Wednesday.